

I. AMENDMENTS TO THE CLAIMS:

Please cancel claims 2, 9 and 10 without prejudice. Kindly amend claims 1, 3, 5, 14, 25 and 26 as follows.

The following claims will replace all prior versions of claims in the present application.

Listing of Claims:

1. (Currently Amended) A method of inspecting a target by tera-hertz wave spectroscopic measurement, comprising:
a spectroscopic measurement step of pre-measuring a first spectrum matrix [S] of tera-hertz wave absorbencies of a target component for a plurality of frequencies ranging from about 1 THz to 3 THz;
an object spectroscopic step of irradiating an object with tera-hertz waves of the plurality of frequencies to measure absorbencies of the object; and
determining presence or absence of the target component in the object on the basis of the first spectrum matrix [S] of tera-hertz wave absorbencies and a second spectrum matrix [I] of tera-hertz wave absorbencies of the object; and
a density calculation step of calculating a target density [P] on the basis of the first spectrum matrix [S] of tera-hertz wave absorbencies and the second spectrum matrix [I] of tera-hertz wave absorbencies of the object.

2. (Cancelled)

3. (Currently Amended) A method of inspecting a target according to claim 1 or claim 2, wherein the target spectroscopic step comprises a step of two-dimensionally scanning the object with the tera-hertz waves to measure the two-dimensional distribution matrix [I] of

absorbency of penetration light,

and the density calculation step comprises a step of calculating the two-dimensional distribution matrix [P] of the target density, wherein tera-hertz waves of N number of different wavelengths are used for M number of targets, N being equal to or larger than M, wherein

when N is equal to M, the two-dimensional distribution matrix [P] of the target density is calculated by $[P] = [S]^{-1}[I]$,

and when N is larger than M, the two-dimensional distribution matrix [P] of the target density is calculated by $[I] = [S][P]$, using a least square method.

4. (Previously Presented) A method of inspecting a target according to claim 3, further comprising a step of two-dimensionally displaying the two-dimensional distribution matrix [P] of the target density.

5. (Currently Amended) A method of inspecting a target according to claim 1~~claim 2~~, wherein tera-hertz waves of N number of different wavelengths are used for M number of targets, N being equal to or larger than M, wherein

when N is equal to M, the two-dimensional distribution matrix [P] of the target density is calculated by $[P] = [S]^{-1}[I]$,

and when N is larger than M, the two-dimensional distribution matrix [P] of the target density is calculated by $[I] = [S][P]$, using a least square method.

6. (Previously Presented) An apparatus for inspecting a target using tera-hertz wave spectroscopic measurement, comprising:

a tera-hertz wave generation device that generates tera-hertz waves of a plurality of wavelengths;

a two-dimensional scan device that scans an object with the tera-hertz waves of the

plurality of wavelengths;

a spectroscopic measurement device that measures a two-dimensional distribution matrix [I] of light absorbency of the object; and

a target density calculation device that calculates a two-dimensional distribution matrix [P] of a target density on the basis of a pre-measured spectrum matrix [S] of light absorbency of a target and the two-dimensional distribution matrix [I] of light absorbency.

7. (Previously Presented) An apparatus for inspecting a target by tera-hertz wave spectroscopic measurement, according to claim 6, further comprising an image display device that two-dimensionally displays an image of the two-dimensional distribution matrix [P] of the target density.

8. (Previously Presented) A method of inspecting a target according to claim 3, further comprising a step of two-dimensionally displaying the two-dimensional distribution matrix [P] of the target density.

9. (Cancelled)

10. (Cancelled)

11. (Previously Presented) A method of inspecting a target according to claim 1, wherein determination of the presence or absence of the target component is performed without opening the object.

12. (Previously Presented) A method of inspecting a target by tera-hertz wave spectroscopic measurement, comprising the steps of:

pre-measuring a first spectrum matrix [S] of tera-hertz wave absorbencies of a target component for a plurality of frequencies ranging from about 1 THz to 3 THz;

irradiating an object with tera-hertz waves of the plurality of frequencies to measure absorbencies of the object; and

determining presence or absence of the target component in the object on the basis of the first spectrum matrix [S] of tera-hertz wave absorbencies and a second spectrum matrix [I] of tera-hertz wave absorbencies of the object.

13. (Previously Presented) A method of inspecting a target according to claim 12, further comprising the steps of:

calculating a target density on the basis of the first spectrum matrix [S] of tera-hertz wave absorbencies and the second spectrum matrix [I] of tera-hertz wave absorbencies of the object, wherein the target density is a two-dimensional distribution matrix [P], and pre-measuring the first spectrum matrix [S] comprises two-dimensionally scanning the object with the tera-hertz waves to measure a two-dimensional distribution matrix [I] of absorbency of penetration light; and

two-dimensionally displaying the two-dimensional distribution matrix [P] of the target density.

14. (Currently Amended) A method of inspecting a target according to
claim12claim 13, wherein tera-hertz waves of N number of different wavelengths are used for
M number of targets, N being equal to or larger than M, wherein

when N is equal to M, the two-dimensional distribution matrix [P] of the target density is calculated by $[P] = [S]^{-1}[I]$,

and

when N is larger than M, the two-dimensional distribution matrix [P] of the target density is calculated by $[I] = [S][P]$, using a least square method.

15. (Previously Presented) A method of inspecting a target according to claim 12, wherein determination of the presence or absence of the target component is performed without opening the object.

16. (Previously Presented) An apparatus for inspecting a target by tera-hertz wave spectroscopic measurement according to claim 6, wherein tera-hertz waves of N number of different wavelengths are used for M number of targets, N being equal to or larger than M, wherein the target density calculation device calculates the two-dimensional distribution matrix [P] as follows:

when N is equal to M, the two-dimensional distribution matrix [P] of the target density is calculated by $[P] = [S]^{-1}[I]$,
and

when N is larger than M, the two-dimensional distribution matrix [P] of the target density is calculated by $[I] = [S][P]$, using a least square method.

17. (Previously Presented) An apparatus for inspecting a target by tera-hertz wave spectroscopic measurement according to claim 6, wherein the target density calculation device determines a presence or absence of a target component in the object using the calculated two-dimensional distribution matrix [P] and without opening the object.

18. (Previously Presented) A method of inspecting a target according to claim 1, wherein the object is an article that is capable of containing the target component.

19. (Previously Presented) A method of inspecting a target according to claim 18, wherein the article is selected from the group consisting of an envelope, a parcel and a container.

20. (Previously Presented) A method of inspecting a target according to claim 18, wherein the target component is selected from the group consisting of a drug and bio-powder.

21. (Previously Presented) A method of inspecting a target according to claim 12, wherein the object is an article that is capable of containing the target component.

22. (Previously Presented) A method of inspecting a target according to claim 21, wherein the article is selected from the group consisting of an envelope, a parcel and a container.

23. (Previously Presented) A method of inspecting a target according to claim 21, wherein the target component is selected from the group consisting of a drug and bio-powder.

24. (Previously Presented) An apparatus for inspecting a target by tera-hertz wave spectroscopic measurement according to claim 17, wherein the object is an article that is capable of containing the target component.

25. (Currently Amended) An apparatus for~~A~~ method of inspecting a target by~~for~~ tera-hertz wave spectroscopic measurement according to claim 24, wherein the article is selected from the group consisting of an envelope, a parcel and a container.

26. (Currently Amended) An apparatus for~~A method of~~ inspecting a target by
terahertz wave spectroscopic measurement according to claim 24, wherein the target component
is selected from the group consisting of a drug and bio-powder.